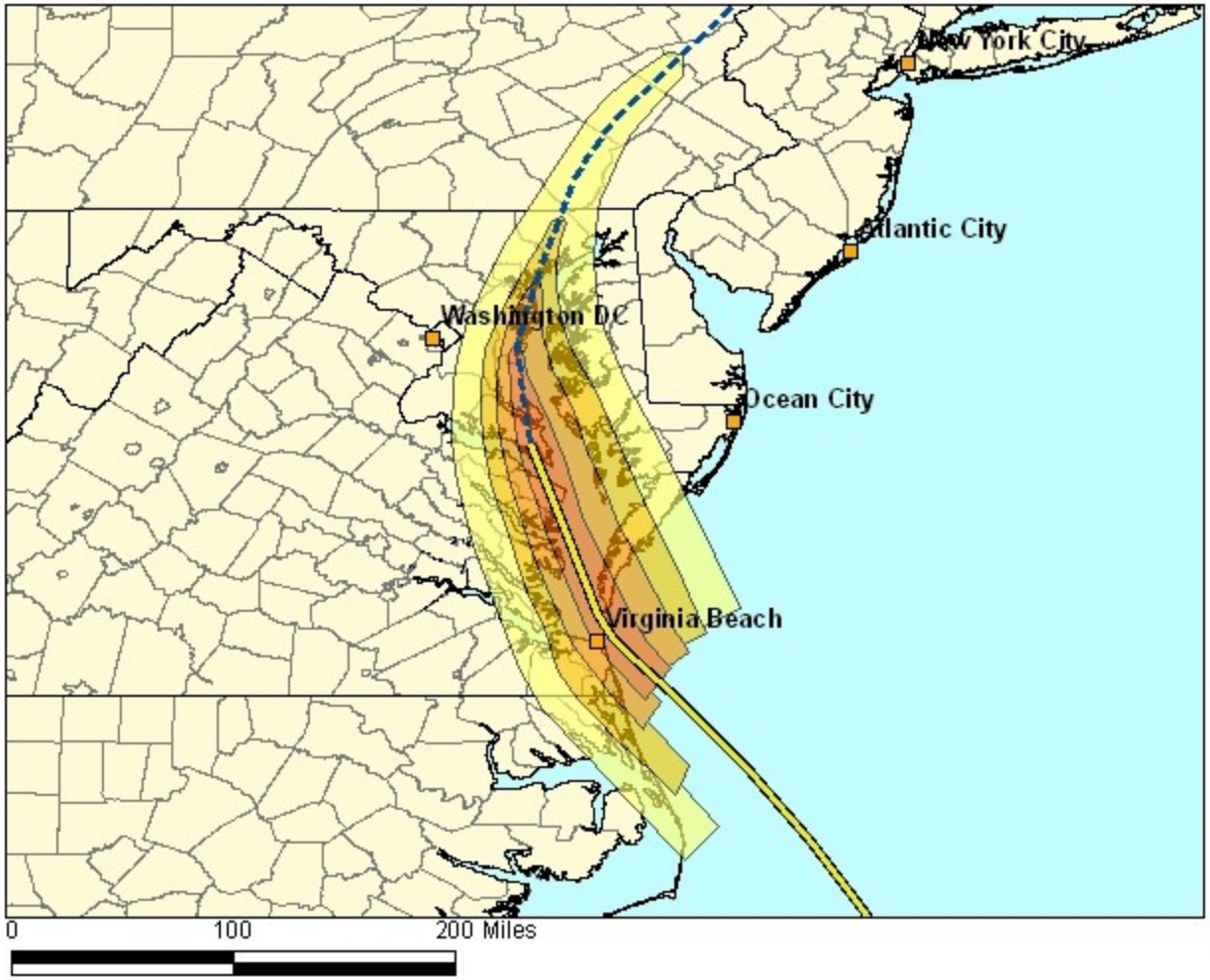
US Army Corps of Engineers

Hurricane Kate Projected Damage Areas

Landfall Has Occurred

For Official Use Only!

Post Landfall Projected Damage Areas



This model is based on a Category 3 storm making landfall near Lancaster, VA.

Forecast Track
Historic Track

Projected Damage Areas

- CAT 0-type damage
- CAT 1-type damage
- CAT 2-type damage
- CAT 3-type damage
- CAT 4-type damage
- CAT 5-type damage

Information provided on this page displays a Category 3 storm making landfall near Lancaster, VA. These projections are based on information from the NHC (0900 EDT 04/27/2007) forecast.

Details about this model may be obtained at https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

Hurricane Kate Projected Damage Areas	
Generated By: Siemsen, LRL 0930 EDT 04/27/2007	
Sources: HURREVAC LRL-DEBRIS	Page 1 of 13

US Army Corps of Engineers

Hurricane Kate Debris Model

Landfall Has Occurred

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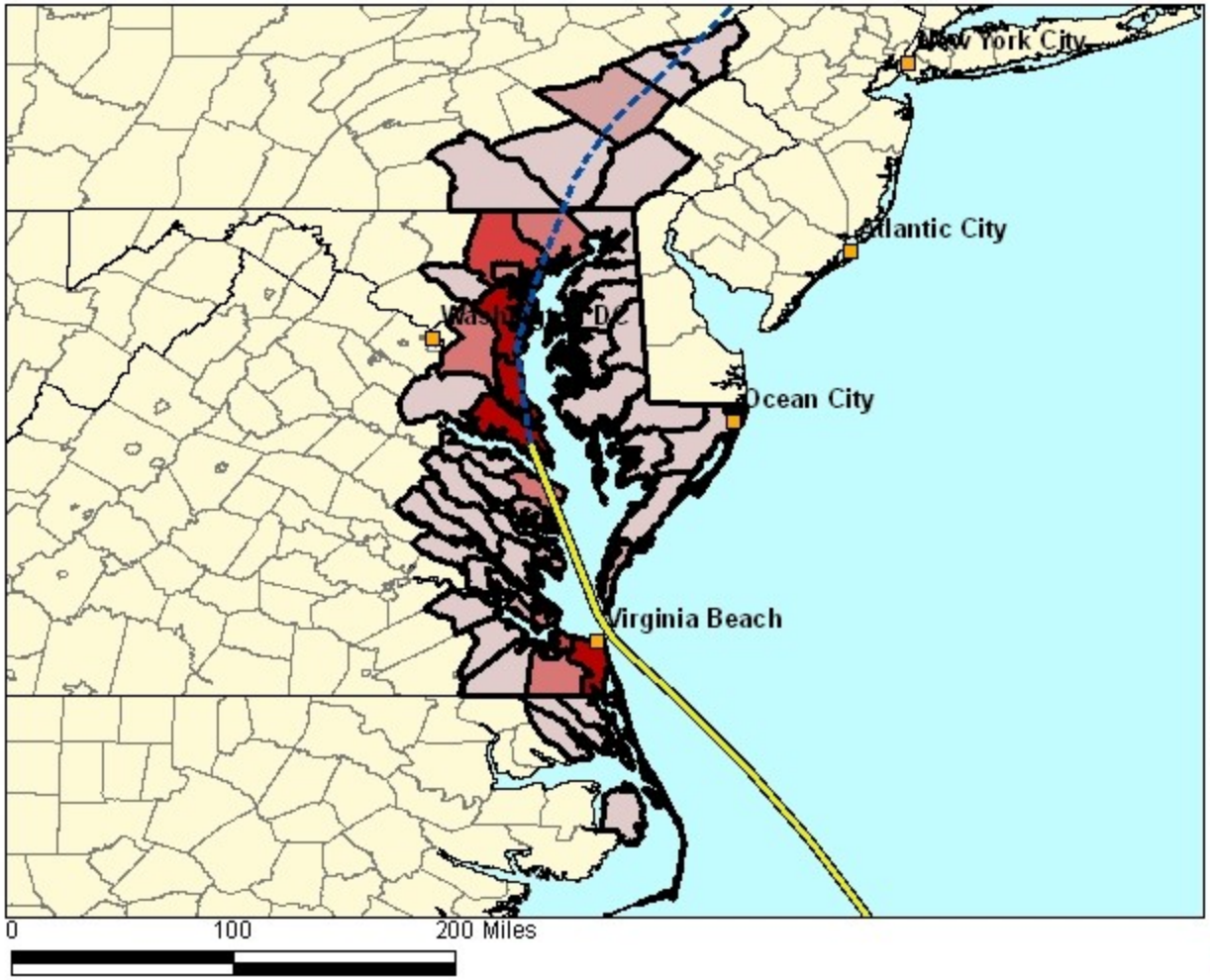

Post Landfall Debris Model Results

Maryland - 8,064,000 Yards
Virginia - 6,658,000 Yards
Pennsylvania - 354,000 Yards
North Carolina - 73,000 Yards

Model results per county on following page

This model is based on a Category 3 storm making landfall near Lancaster, VA.

Forecast Track
Historic Track

Debris

- < 100,000 cubic yards
- 100,000 - 249,999 cubic yards
- 250,000 - 499,999 cubic yards
- 500,000 - 999,999 cubic yards
- >1,000,000 cubic yards

Information provided on this page displays a Category 3 storm making landfall near Lancaster, VA. These projections are based on information from the NHC (0900 EDT 04/27/2007) forecast. The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

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Hurricane Kate Debris Model	
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Sources: HURREVAC LRL-DEBRIS	Page 2 of 13

US Army Corps of Engineers

Hurricane Kate Debris Model

Landfall Has Occurred

For Official Use Only!

State	Yards per State	County	Yards per County
Maryland		Anne Arundel	2,769,000
		Baltimore	830,000
		Baltimore City	464,000
		Calvert	1,663,000
		Caroline	2,000
		Cecil	13,000
		Charles	69,000
		Dorchester	74,000
		Harford	379,000
		Howard	14,000
		Kent	9,000
		Prince Georges	269,000
		Queen Annes	50,000
		Somerset	25,000
		St Marys	1,378,000
		Talbot	47,000
		Wicomico	5,000
		Worcester	4,000
Maryland	8,064,000		
North Carolina		Camden	6,000
		Currituck	34,000
		Dare	24,000
		Pasquotank	9,000
North Carolina	73,000		
Pennsylvania		Berks	167,000
		Chester	9,000
		Lancaster	78,000
		Lehigh	86,000
		Northampton	9,000
		York	5,000

State	Yards per State	County	Yards per County
Pennsylvania	354,000		
(continued)			
Virginia		Accomack	60,000
		Chesapeake	367,000
		Essex	5,000
		Gloucester	63,000
		Hampton City	321,000
		Isle Of Wight	7,000
		James City	14,000
		King And Queen	4,000
		King William	2,000
		Lancaster	159,000
		Mathews	117,000
		Middlesex	70,000
		New Kent	< 1,000
		Newport News	118,000
		Norfolk City	696,000
		Northampton	190,000
		Northumberland	293,000
		Poquoson City	28,000
		Portsmouth	112,000
		Richmond	17,000
		Suffolk City	14,000
		Surry	< 1,000
		Virginia Beach	3,870,000
		Westmoreland	34,000
		Williamsburg	7,000
		York	90,000
Virginia	6,658,000		

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

Details about this model may be obtained at https://englink.usace.army.mil
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Hurricane Kate Debris Model

Generated By:
Siemsen, LRL 0930 EDT 04/27/2007

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Kate Population Model

Landfall Has Occurred

For Official Use Only!

Post Landfall Population Model Results

Virginia - 1,100,000
Maryland - 879,000
North Carolina - 14,000

Model results per county on following page

This model is based on a Category 3 storm making landfall near Lancaster, VA.

Forecast Track
Historic Track

Population

- < 25,000 persons
- 25,000 - 99,999 persons
- 100,000 - 174,999 persons
- 175,000 - 249,999 persons
- > 250,000 persons

Information provided on this page displays a Category 3 storm making landfall near Lancaster, VA. These projections are based on information from the NHC (0900 EDT 04/27/2007) forecast. The numbers of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2005 values).

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

Hurricane Kate Population Model	
Generated By: Siemsen, LRL 0930 EDT 04/27/2007	
Sources: HURREVAC LRL-DEBRIS	Page 4 of 13

US Army Corps of Engineers

Hurricane Kate Population Model

Landfall Has Occurred

For Official Use Only!

State	Population per State	County	Population per County
Maryland		Anne Arundel	313,000
		Baltimore	189,000
		Baltimore City	4,000
		Calvert	88,000
		Charles	5,000
		Dorchester	18,000
		Harford	121,000
		Prince Georges	16,000
		Queen Annes	19,000
		Somerset	6,000
		St Marys	91,000
		Talbot	9,000
Maryland	879,000		
North Carolina		Currituck	11,000
		Dare	3,000
North Carolina	14,000		
Virginia		Accomack	15,000
		Chesapeake	141,000
		Gloucester	21,000
		Hampton City	113,000
		Lancaster	12,000
		Mathews	10,000
		Middlesex	9,000
		Norfolk City	232,000
		Northampton	14,000
		Northumberland	13,000
		Poquoson City	12,000
		Portsmouth	23,000
		Richmond	6,000
		Virginia Beach	439,000

State	Population per State	County	Population per County
Virginia		Westmoreland	6,000
(continued)		York	34,000
Virginia	1,100,000		

The number of persons estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2005 values.

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

Hurricane Kate Population Model

Generated By:
Siemsen, LRL 0930 EDT 04/27/2007

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Kate Households Model

Landfall Has Occurred

For Official Use Only!

Post Landfall Households Model Results

Virginia - 409,000
Maryland - 332,000
North Carolina - 7,000

Model results per county on following page

This model is based on a Category 3 storm making landfall near Lancaster, VA.

Forecast Track
Historic Track

Households

- < 7,500 households
- 7,500 - 14,999 households
- 15,000 - 24,999 households
- 25,000 - 49,999 households
- > 50000 households

Information provided on this page displays a Category 3 storm making landfall near Lancaster, VA. These projections are based on information from the NHC (0900 EDT 04/27/2007) forecast. The numbers of households included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2005 values).

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

Hurricane Kate Households Model	
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US Army Corps of Engineers

Hurricane Kate Households Model

Landfall Has Occurred

For Official Use Only!

State	Households per State	County	Households per County
Maryland		Anne Arundel	116,000
		Baltimore	75,000
		Baltimore City	2,000
		Calvert	30,000
		Charles	2,000
		Dorchester	8,000
		Harford	45,000
		Prince Georges	6,000
		Queen Annes	8,000
		Somerset	3,000
		St Marys	33,000
		Talbot	4,000
Maryland	332,000		
North Carolina		Currituck	5,000
		Dare	2,000
North Carolina	7,000		
Virginia		Accomack	6,000
		Chesapeake	51,000
		Gloucester	8,000
		Hampton City	41,000
		Lancaster	6,000
		Mathews	4,000
		Middlesex	4,000
		Norfolk City	86,000
		Northampton	6,000
		Northumberland	6,000
		Poquoson City	5,000
		Portsmouth	9,000
		Richmond	2,000
		Virginia Beach	160,000

State	Households per State	County	Households per County
Virginia		Westmoreland	3,000
(continued)		York	12,000
Virginia	409,000		

The number of households estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2005 values.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

Hurricane Kate Households Model

Generated By:
Siemsen, LRL 0930 EDT 04/27/2007

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Kate Commodities Model

Landfall Has Occurred

For Official Use Only!

Post Landfall Ice/Water Model Results

Day One / Day Two / Day Three
VA - 24/48/95 Truckloads
MD - 20/39/78 Truckloads
NC – 1/2/2 Truckloads

Model results per county on following page

This model is based on a Category 3 storm making landfall near Lancaster, VA.

Forecast Track
Historic Track

Commodities
- < 5 Trucks Each
- 5 - 10 Trucks Each
- 11 - 20 Trucks Each
- 21 - 40 Trucks Each
- > 40 Trucks Each

Information provided on this page displays a Category 3 storm making landfall near Lancaster, VA. These projections are based on information from the NHC ***(0900 EDT 04/27/2007)*** forecast. The amount of commodities forecasted is based on Mission Guide Book requirements (8 pounds of ice per person per day) and SME input. The graphic represents single day needs with full distribution system in place and operating.
Details about this model may be obtained at **https://englink.usace.army.mil**
or contact ENGLink at 1-877-936-4546

Hurricane Kate Commodities Model	
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Sources: HURREVAC LRL-DEBRIS	Page 8 of 13

US Army Corps of Engineers

Hurricane Kate Commodities Model

Landfall Has Occurred

For Official Use Only!

State	Truckloads per State	County	Truckloads per County
Maryland		Anne Arundel	26
		Baltimore	16
		Baltimore City	1
		Calvert	8
		Charles	1
		Dorchester	2
		Harford	10
		Prince Georges	2
		Queen Annes	2
		Somerset	1
		St Marys	8
		Talbot	1
Maryland	78		
North Carolina		Currituck	1
		Dare	1
North Carolina	2		
Virginia		Accomack	2
		Chesapeake	12
		Gloucester	2
		Hampton City	9
		Lancaster	1
		Mathews	1
		Middlesex	1
		Norfolk City	19
		Northampton	2
		Northumberland	2
		Poquoson City	1
		Portsmouth	2
		Richmond	1
		Virginia Beach	36

State	Truckloads per State	County	Truckloads per County
Virginia		Westmoreland	1
(continued)		York	3
Virginia	95		

The amount of commodities forecasted is based on Mission Guide Book requirements (8 pounds of ice per person per day) and SME input and the above table indicates suggested needs based on phased deployment of a commodities distribution system. The assumption in this scenario is that 40% of the resident population affected by the hurricane will have power outage in this area and cause a need for ice and water.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

Hurricane Kate Commodities Model

Generated By:
Siemsen, LRL 0930 EDT 04/27/2007

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Kate Temporary Housing Model

Landfall Has Occurred

For Official Use Only!

Post Landfall Temporary Housing Model Results

Virginia - 7,500
Maryland - 6,800

Model results per county on following page

This model is based on a Category 3 storm making landfall near Lancaster, VA.

Forecast Track
Historic Track

Temporary Housing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 3 storm making landfall near Lancaster, VA. These projections are based on information from the NHC (0900 EDT 04/27/2007) forecast. Temporary housing is based on 1% in CAT 1, 3% in CAT 2 and 5% in CAT 3.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

Hurricane Kate Housing Model	
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Sources: HURREVAC LRL-DEBRIS	Page 10 of 13

US Army Corps of Engineers

Hurricane Kate Temporary Housing Model

Landfall Has Occurred

For Official Use Only!

State	per State	County	per County
Maryland		Anne Arundel	2,800
		Baltimore	900
		Baltimore City	< 100
		Calvert	1,400
		Charles	< 100
		Dorchester	< 100
		Harford	500
		Prince Georges	< 100
		Queen Annes	< 100
		Somerset	< 100
		St Marys	1,200
		Talbot	< 100
Maryland	6,800		
North Carolina		Currituck	< 100
		Dare	< 100
North Carolina			
Virginia		Accomack	< 100
		Chesapeake	600
		Gloucester	< 100
		Hampton City	500
		Lancaster	200
		Mathews	200
		Middlesex	< 100
		Norfolk City	1,000
		Northampton	300
		Northumberland	300
		Poquoson City	< 100
		Portsmouth	< 100
		Richmond	< 100
		Virginia Beach	4,200

State	per State	County	per County
Virginia		Westmoreland	< 100
(continued)		York	200
Virginia	7,500		

THIS IS AN EXPERIMENTAL MODEL!!

Temporary housing is based on 1% in CAT 1, 3% in CAT 2 and 5% in CAT 3.

Details about this model may be obtained at https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

Hurricane Kate Housing Model

Generated By:
Siemsen, LRL 0930 EDT 04/27/2007

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Kate Temporary Roofing Model

Landfall Has Occurred

For Official Use Only!

Post Landfall Temporary Roofing Model Results

Virginia - 15,100
Maryland - 13,900

Model results per county on following page

This model is based on a Category 3 storm making landfall near Lancaster, VA.

Forecast Track
Historic Track

Temporary Roofing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 3 storm making landfall near Lancaster, VA. These projections are based on information from the NHC (0900 EDT 04/27/2007) forecast. Temporary roofing is based on 2% in CAT 1, 6% in CAT 2 and 10% in CAT 3.

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Hurricane Kate Roofing Model	
Generated By: Siemsen, LRL 0930 EDT 04/27/2007	
Sources: HURREVAC LRL-DEBRIS	Page 12 of 13

US Army Corps of Engineers

Hurricane Kate Temporary Roofing Model

Landfall Has Occurred

For Official Use Only!

State	House Units per State	County	House Units per County
Maryland		Anne Arundel	5,600
		Baltimore	1,700
		Baltimore City	< 100
		Calvert	2,700
		Charles	< 100
		Dorchester	200
		Harford	900
		Prince Georges	200
		Queen Annes	200
		Somerset	< 100
		St Marys	2,400
		Talbot	< 100
Maryland	13,900		
North Carolina		Currituck	< 100
		Dare	< 100
North Carolina			
Virginia		Accomack	200
		Chesapeake	1,100
		Gloucester	200
		Hampton City	900
		Lancaster	400
		Mathews	300
		Middlesex	200
		Norfolk City	1,900
		Northampton	500
		Northumberland	500
		Poquoson City	< 100
		Portsmouth	200
		Richmond	< 100
		Virginia Beach	8,400

State	House Units per State	County	House Units per County
Virginia		Westmoreland	< 100
(continued)		York	300
Virginia	15,100		

THIS IS AN EXPERIMENTAL MODEL!!

Temporary roofing is based on 2% in CAT 1, 6% in CAT 2 and 10% in CAT 3.

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or contact ENGLink at 1-877-936-4546

Hurricane Kate Roofing Model

Generated By:
Siemsen, LRL 0930 EDT 04/27/2007

Sources:
HURREVAC
LRL-DEBRIS